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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

SAN DIEGO REGION

TECHNICAL ANALYSIS
FOR
CLEANUP AND ABATEMENT ORDER NO. R9-2005-0017

BULEN FAMILY TRUST

LOVETT'S ONE-HOUR DRY CLEANERS
1378 EAST GRAND AVENUE
ESCONDIDO, CALIFORNIA

SAN DIEGO COUNTY

August 23, 2005

STATE OF CALIFORNIA

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I. INTRODUCTION

This technical analysis provides the rationale and factual evidence supporting the findings of Cleanup and Abatement Order (CAO) R9-2005-0017, *Bulen Family Trust, Lovett's One Hour Dry Cleaners, 1387 East Grand Avenue, Escondido, California, San Diego County.* CAO R9-2005-0017 was issued to address the cleanup and abatement of a chlorinated hydrocarbon waste release (tetrachloroethylene (PCE) and trichloroethylene (TCE)) to soil and ground water from the Lovett's One Hour Dry Cleaners facility. Efforts to assess the impacts to soil and ground water from this release of waste occurred between 1998 and 2004 and included drilling 18 soil borings and installing 5 ground water monitoring wells. Soil vapor samples were also collected. Soil containing chlorinated solvent waste has not been removed from the Site and no treatment of ground water to reduce in-situ dissolved concentrations of chlorinated hydrocarbons has occurred.

II. BACKGROUND

Lovett's One Hour Dry Cleaner is located at 1378 East Grand Avenue in Escondido (the Site) on property owned by the Bulen Family Trust, since 1963. The parcel encompasses approximately 1,800 square feet. The Site has operated as a dry cleaner facility since the early 1970s, but it was not until 1994, during activities to upgrade the dry cleaning machine(s) that stained soil was identified and an environmental investigation was initiated. In 1998,Vertex Engineering Services, Inc. conducted a Phase I Environmental Assessment for General Electric Capital Real Estate. Vertex recommended that a subsurface investigation be conducted to determine the nature and extent of the discharge from the dry cleaners. Vertex conducted a Limited Subsurface Investigation in September 1998 at the direction of General Electric Capital Real Estate. The investigation revealed that several chlorinated solvent chemical compounds typically associated with dry cleaning operations, including tetrachloroethylene (PCE) and trichloroethylene (TCE), were detected in soil samples collected from the Site.

PCE and TCE were released into the subsurface soil sometime between 1973 and 1994. The exact cause of the release is unknown. The United States Environmental Protection Agency (USEPA) classifies PCE and TCE as probable human carcinogens. Efforts to assess the impacts to soil and ground water from this release of waste occurred between 1998 and 2004 under the regulatory oversight of the County of San Diego Department of Environmental Health (DEH). Assessment included drilling 18 soil borings and installing 5 ground water monitoring wells. Soil vapor samples were also collected. Soil containing chlorinated solvent waste has not been removed from the Site and no treatment of ground water to reduce in situ dissolved concentrations of chlorinated hydrocarbons has occurred. By letter dated August 6, 2004 the DEH issued a no further remedial action determination and a case closure summary for this Site based on information provided to them by the Dischargers' consultant, PIC Environmental Services (PIC). The DEH concurred with PIC that the extent of soil and groundwater contamination has been adequately defined, that the plume of contaminated groundwater is stable and does not threaten the beneficial use of water resources, and that residual subsurface contamination does not pose an existing threat to human health.

The Regional Board reviewed the Case Closure Summary and supporting technical information and determined that the proposed levels of waste constituent concentrations left in place are not protective of ground water quality and beneficial uses. Further assessment and cleanup and abatement is necessary to protect ground water quality and beneficial uses as required under Resolution No. 92-49 (*Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304*)[1].

III. BASIS FOR FINDINGS

1. **DISCHARGE OF SOLVENT WASTE.** From 1973 until the present, a dry cleaner facility, currently doing business as Lovett's One Hour Dry Cleaners, has operated at 1378 East Grand Avenue in Escondido, California (Site) on land leased from the Bulen Family Trust. Historically, previous operators of the dry cleaning facility (collectively referred to as Lovett's) caused or permitted waste from its dry cleaning operations, including tetrachloroethylene (PCE) and trichloroethylene (TCE), to be discharged to ground water underlying the Site and to be deposited in soil at the Site from which waste has been and probably will be discharged to ground water. Waste from Lovett's Dry Cleaning operations has caused and threatens to cause conditions of pollution, contamination, and nuisance by exceeding applicable water quality objectives for chlorinated solvent chemical waste constituents.

   Basis for Finding No. 1

   - September 18, 1998 Limited Subsurface Investigation prepared by Vertex
   - February 26, 2004 PIC Environmental Services Groundwater Monitoring Report.
   - May 18, 2004 PIC Environmental Services Request for Case Closure/No Further Action Report.
   - Water Quality Control Plan for the San Diego Basin (Basin Plan)

   The Site is located in the Escondido Hydrologic Subarea (HSA) (904.62); ground water in the Escondido HSA is designated as having existing beneficial uses for municipal and domestic water supply (MUN)[2, 3] , agricultural supply water (AGR), and industrial service

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[1] SWRCB Resolution No. 92-49 establishes the basis for determining cleanup levels of waters of the State and soils that impact waters of the State. Pursuant to Resolution 92-49, section III.G., dischargers are required to clean up and abate the effects of discharges "in a manner that promotes attainment of either background water quality, or the best water quality which is reasonable if background levels of water quality cannot be restored, . . ." Alternative cleanup levels less stringent than background must 1) be consistent with maximum benefit to the people of the state, 2) not unreasonably affect present and anticipated beneficial uses of waters of the State and 3) not result in water quality less than prescribed in the Water Quality Control Plan for the San Diego Basin (Basin Plan).

[2] See Water Quality Control Plan for the San Diego Basin (Basin Plan), Page 2-3. The Basin Plan defines MUN as "[u]ses of water for community, military, or individual water supply systems including, but not limited to, drinking water supply."

[3] Basin Plan, footnote 1, supra. Table 2-5 at 2-54.

supply (IND). The Basin Plan contains numeric water quality objectives[4] for chemical constituents to protect ground waters designated for MUN. The numeric objectives are derived from primary maximum contaminant levels (MCLs) [5] established by the Department of Health Services (Department) in Title 22 of the California Code of Regulations. [6] In general, the Department establishes MCLs to ensure the safety of public drinking water supplies at the point of use, i.e. at the tap.

Elevated PCE and TCE concentrations are present in soil at 55,000 ug/kg (PCE) at 14 feet below ground surface (bgs) and 260,000 ug/kg (TCE) at 2 feet bgs. PCE. TCE, and their associated chemical breakdown products, *cis*-1,2-dichloroethylene (*c*-DCE), *trans*-1,2-dichloroethylene (t-DCE) are present in the ground water at the Site in concentrations above the applicable Basin Plan water quality objectives:

Waste Constituent	Ground Water Concentration (ug/l)	Basin Plan Water Quality Objective (ug/l)
Tetrachloroethylene (PCE)	14,000	5
Trichloroethylene (TCE)	1,100	5
Cis-1,2-Dichloroethylene (c-DCE)	3,700	6
Trans-1,2-Dichloroethylene (t-DCE)	44	10

The types and levels of waste constituents found in the soil and ground water are associated with dry cleaning facility waste discharges. Dry cleaning operations at the Site included the use of PCE and TCE as solvents in the dry cleaning process. Based on the foregoing, the discharge of waste at the Site has caused the presence of waste constituents in the ground water in concentrations in excess of applicable public heath protective water quality

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[4] "Water quality objectives" are defined in Water Code section 13050(h) as "the limits or levels water quality constituents or characteristics which are established for the reasonable protection of beneficial uses of water or the prevention of nuisance within a specific area."

[5] MCLs, maximum contaminant levels, are public health-protective drinking water standards to be met by public water systems. MCLs take into account not only chemicals' health risks but also factors such as their detectability and treatability, as well as the costs of treatment. Primary MCLs can be found in Title 22 California Code of Regulations (CCR) sections 64431 - 64444. Secondary MCLS address the taste, odor, or appearance of drinking water, and are found in 22 CCR section 64449.

[6] Basin Plan, footnote 1, supra. Page 3-10 and Table 3-6 at 3-11. The Basin Plan provides that "Water designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels specified in California Code of Regulations, Title 22, Table 64444-A of Section 64444 (Organic Chemicals) which is incorporated by reference into this plan. This incorporation by reference is prospective including future changes to the incorporated provisions as the changes take effect. (See Table 3-6.)"

objectives and has therefore created a condition of pollution[7] and contamination[8] in waters of the State.

The discharge of waste at the Site has also created or threatens to create a condition of nuisance[9] in waters of the State. The presence of waste constituents in ground water in concentrations in excess of applicable public heath protective water quality objectives is potentially injurious to the public health[10]. The interference and complications with the use of ground water for drinking water purposes arising from the presence of waste constituents in concentrations well in excess of applicable water quality objectives, can be considered an obstruction to the free use of property as provided in Water Code Section 13050(m).

2. **PERSONS RESPONSIBLE.** Mr. Khosrou Tahbaz currently operates Lovetts and has since 1999. Evidence shows that the release occurred prior to 1999. Unidentified persons who were operators of the dry cleaning facility prior to 1999 may also be associated with the discharge. The Bulen Family Trust has been the fee title owner of the Site since 1963 and leased the Site to Mr. Tahbaz and other dry cleaning operators. The Bulen Family Trust is referred to as "Discharger" in this Cleanup and Abatement Order.

Basis for Finding No. 2

- August 6, 2004 County of San Diego Department of Environmental Health - No Further Action Determination Letter.
- August 14, 2004 Telephone conversation with John Hurtz, Stepstone Real Estate, 1660 Union Street, 4th Floor, San Diego, CA 92101.
- October 2004 City of Escondido Business License Division, Request for Business License Information Form.

California Water Code section 13304 authorizes the Regional Board to order any person who "causes or permits" waste to be discharged where it "creates or threatens to create a condition of pollution or nuisance" to clean up or abate the effects of the waste. The State Water Resources Control Board (State Board), in a series of orders dealing with the review of Regional Board decisions on who is responsible for ground water cleanups, has established

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[7] "Pollution" is defined in Water Code section 13050 (1) as "an alteration of the quality of the waters of the state by waste to a degree which unreasonably affects either of the following: (A) The waters for beneficial uses, (B) Facilities which serve these beneficial uses." Pollution" may include "contamination."

[8] "Contamination" is defined in Water Code section 13050(k) as an impairment of the quality of the waters of the state by waste to a degree which creates a hazard to the public health through poisoning or through the spread of disease. "Contamination" includes any equivalent effect resulting from the disposal of waste, whether or not waters of the state are affected.

[9] Nuisance is defined in Water Code section 13050(m) ".... anything which: (1) is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property, and (2) affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal, and (3) occurs during or as a result of the treatment or disposal of wastes."

[10] The United States Environmental Protection Agency (USEPA) classifies PCE and TCE as probable human carcinogens.

general principles regarding naming responsible parties. These principles can be summarized as follows:

- In general, name all persons who have caused or permitted a discharge (Orders Nos. WQ 85-7 and 86-16).
- "Discharge" is to be construed broadly to include both active discharges and continuing discharges (Order No. WQ 86-2).
- There must be reasonable basis for naming a responsible party (i.e., substantial evidence). It is inappropriate to name persons who are only remotely related to the problem such as suppliers and distributors of gasoline (WQ 85-7, 86-16, 87-1, 89-13, and 90-2).
- Persons who are in current possession, ownership or control of the property should be named, including current landowners and lessees (numerous orders, including WQ 84-6, 86-11, 86-18, 89-1, 89-8, 89-13 and 90-3).

The Regional Board has applied these principles in determining what parties should be named in CAO R9-2005-0017.

It is undisputed that the Bulen Family Trust has owned the Site since 1963 and leased the Site to Mr. Tahbaz in 1999 and prior dry cleaning operators. The Regional Board has discretion to hold landowners accountable for discharges which occur or occurred on the landowner's property based on three criteria: (1) ownership of the land; (2) knowledge of the activity causing the discharge; and (3) the ability to control the activity. The Bulen Family Trust meets all three of these criteria and should be named in the cleanup and abatement order as a responsible party.

Although the exact cause of the release is unknown, the types and levels of waste constituents found in the soil and ground water can be attributed to a waste release(s) from the Lovett's One Hour Dry Cleaner facility. Mr. Tahbaz is not currently named on the CAO because evidence in the record does not document his connection to the site in 1994.

3. **WASTE DISCHARGES.** Dry cleaning operations at the Site include the use of Tetrachloroethylene (PCE) and Trichloroethylene (TCE) as solvents in the dry cleaning process. Site investigations have found elevated PCE and TCE concentrations in soil at 55,000 ug/kg (PCE) at 14 feet below ground surface (bgs) and 260,000 ug/kg (TCE) at 2 feet bgs. Site investigations have also found TCE, PCE, and their associated chemical breakdown products, *cis*-1,2-dichloroethylene (*c*-DCE), *trans*-1,2-dichloroethylene (t-DCE) in ground water underlying the Site in concentrations in excess of applicable *Water Quality Control Plan for the San Diego Basin* (Basin Plan) water quality objectives. Chlorinated solvent waste concentrations remain elevated at the Site because to date no cleanup or abatement actions have been undertaken by the Discharger(s).

Basis for Finding No. 3

- Profile of the Dry Cleaning Industry, EPA Office of Compliance Sector Notebook Project, USEPA, 1995
- September 18, 1998 Limited Subsurface Investigation prepared by Vertex
- February 26, 2004 PIC Environmental Services Groundwater Monitoring Report.
- May 18, 2004 PIC Environmental Services Request for Case Closure/No Further Action Report.
- Water Quality Control Plan for the San Diego Basin (Basin Plan)

In 1994, stained soil was discovered during activities to upgrade the dry cleaning machine. In 1998, a Phase I Assessment was conducted documenting the release of PCE and TCE waste to soil. Additional assessment was conducted documenting a release of PCE and TCE to ground water beneath the Site. These investigations found that elevated PCE and TCE concentrations remain in soil at 55,000 ug/kg (PCE) at 14 feet below ground surface (bgs) and 260,000 ug/kg (TCE) at 2 feet bgs. The investigations also found that TCE, PCE and their associated chemical breakdown products, *cis*-1,2-dichloroethylene (*c*-DCE), *trans*-1,2-dichloroethylene (t-DCE) are present in the ground water at the Site in concentrations in excess of applicable *Water Quality Control Plan for the San Diego Basin* (Basin Plan) water quality objectives (see Table below):

Waste Constituent	Ground Water Concentration (ug/l)	Basin Plan Water Quality Objective (ug/l)
Tetrachloroethylene (PCE)	14,000	5
Trichloroethylene (TCE)	1,100	5
Cis-1,2-Dichloroethylene (c-DCE)	3,700	6
Trans-1,2-Dichloroethylene (t-DCE)	44	10

4. **BASIN PLAN PROHIBITION VIOLATION:** The discharge of chlorinated solvent waste constituents from the Lovett's Dry Cleaners is a violation of Waste Discharge Prohibition No. 1 of the Water Quality Control Plan for the San Diego Region (9) (Basin Plan). Prohibition No. 1 states "The discharge of waste to waters of the state in a manner causing, or threatening to cause a condition of pollution, contamination or nuisance as defined in California Water Code Section 13050, is prohibited."

Basis for Finding No. 4

- *Water Quality Control Plan for the San Diego Basin (Basin Plan)* adopted in 1974 pursuant to California Water Code (Water Code) section 13240 and the federal Clean Water Act (CWA) section 303(c) and updated in 1994.

The Basin Plan contains discharge prohibitions that specify certain conditions or areas where the discharge of waste, or certain types of waste is not permitted pursuant to Water Code section 13243. The Basin Plan discharge prohibition No. 1 cited in CAO Finding 4 is contained in Chapter 4 on Page 4-15 of the 1994 Basin Plan. The discharge prohibition is applicable to any person, as defined by Section 13050(c) of the California Water Code, who is a citizen, domiciliary, or political agency or entity of California whose activities in California could affect the quality of waters of the state within the boundaries of the San Diego Region.

See also Basis for Finding No.1.

5. **SITE INVESTIGATION.** The Discharger(s) have failed to complete site investigations needed to delineate the vertical and horizontal extent of waste from dry cleaning operations in soil and ground water. The Dischargers must establish the vertical and horizontal extent of chlorinated hydrocarbon waste (PCE, TCE & their degradation products) and any other waste constituents with sufficient detail to identify affected or threatened waters of the state and provide the basis for decisions regarding subsequent cleanup and abatement actions, if any are determined by the Regional Board to be necessary.

Basis for Finding No. 5

State Water Resources Control Board Resolution No. 92-49, *Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304* [11] provides in Section II.A.1. that the Regional Board shall require the Discharger(s) to determine the nature and extent of the discharge with sufficient detail to provide the basis for decisions regarding subsequent cleanup and abatement actions. Installation of ground water monitoring wells typically occur as an iterative process until ground water monitoring data indicates that waste constituent concentrations are at or near background concentrations or not detectable in ground water. Completion of this iterative process results in an adequate delineation of the plume in the horizontal direction.

The chlorinated hydrocarbon plume at the Site is not adequately defined. Large distances (approximately 450 feet) exist between on-Site wells and the only remaining downgradient off-Site well. Concentrations of PCE decrease within the 450 feet between MW-3 (on Site) and MW-5 (down gradient) however there are no wells to either the north or south of this assumed plume centerline to provide adequate definition of the plume. The Site is located in an industrial area where buildings cover most of the land downgradient from the discharge point. Taking this into account, ground water monitoring wells should be placed around the buildings to define the limits of the plume in the northern and southern directions.

Vertical delineation of the plume at the Site is also incomplete. Existing ground water monitoring wells at the Site are constructed using 15-foot wells screens. Long well screens (>

[11] SWRCB Resolution No. 92-49 is a state policy that establishes policies and procedures for investigation and cleanup and abatement of discharges under CWC Section 13304. The Resolution includes procedures to investigate the nature and horizontal and vertical extent of a discharge and procedures to determine appropriate cleanup and abatement measures.

10 feet) are not recommended by the County of San Diego Department of Environmental Health in their Site Assessment and Mitigation Manual (SAM) for use during delineation of chlorinated hydrocarbon plumes due to the chemical properties of chlorinated solvents (density heavier than water). Shorter wells (<10 feet) are recommended to minimize the effects of dilution providing a more reliable vertical delineation.

Plume delineation requires a thorough understanding of the characteristics of the aquifer and a complete assessment of the extent of chlorinated solvent waste in soil. Boring locations B3, B5, B7, and B10 are not sufficient to determine the extent of chlorinated hydrocarbons in the vertical direction. Concentrations of PCE in soil at the deepest point in these borings are 55,000 ug/kg, 7,400 ug/kg, 3,500 ug/kg, and 4,880 ug/kg, respectively. PCE concentrations in soil increase with depth in all four of these borings. The Regional Board cannot conclude that delineation of the extent of waste deposited to soil in the vertical direction is complete when high concentrations of chlorinated solvent waste remains in soil at depth.

6. **CLEANUP AND ABATEMENT ACTIONS**. Efforts to assess the impacts to soil and ground water from this release of waste occurred between 1998 and 2004 and included drilling 18 soil borings and installing 5 ground water monitoring wells. Soil vapor samples were also collected. Soil containing chlorinated solvent waste has not been removed from the Site and no treatment of ground water to reduce in situ dissolved concentrations of chlorinated solvent waste has occurred.

Basis for Finding No. 6

- September 18, 1998 Limited Subsurface Investigation prepared by Vertex
- February 26, 2004 PIC Environmental Services Groundwater Monitoring Report.
- May 18, 2004 PIC Environmental Services Request for Case Closure/No Further Action Report.

7. **LEGAL AND REGULATORY AUTHORITY.** This Order is based on (1) Section 13267 and Chapter 5, Enforcement and Implementation commencing with Section 13300 of the Porter-Cologne Water Quality Control Act (Division 7 of the Water Code, commencing with Section 13000); (2) applicable state and federal regulations; (3) all applicable provisions of statewide Water Quality Control Plans adopted by the State Water Resources Control Board and the *Water Quality Control Plan for the San Diego Basin* (Basin Plan) adopted by the Regional Board including beneficial uses, water quality objectives, and implementation plans; (4) State Water Board policies, including State Water Board Resolution No. 68-16 (*Statement of Policy with Respect to Maintaining High Quality of Waters in California*) and Resolution No. 92-49 (*Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304*); and (5) relevant standards, criteria, and advisories adopted by other state and federal agencies

Basis for Finding No. 7

- California Water Code, Porter-Cologne Water Quality Control Act, with additions and amendments effective January 1, 2005.
- Water Quality Control Plan for the San Diego Basin (Basin Plan).

- State Water Resources Control Board Resolution No. 68-16, *Statement of Policy with Respect to Maintaining High Quality of Waters in California.*
- State Water Resources Control Board Resolution No. 92-49 (*Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304*)

8. **Finding No. 8: CEQA EXEMPTION:** "This enforcement action is exempt from the provisions of the California Environmental Quality Act (CEQA) in accordance with Section 15321 (Enforcement Actions by Regulatory Agencies), Article 19, Chapter 3, Division 6, Title 14 of the California Code of Regulations."

   Basis for Finding No. 8
   See California Code of Regulations Section 15321(a) - Actions by regulatory agencies to enforce or revoke a lease, permit, license certificate, or other entitlement for use issued, adopted, or prescribed by the regulatory agency or enforcement of a law, general rule, standard, or objective, administered or adopted by the regulatory agency. The Regional Board is exempt from going through the CEQA public participation process during issuance of CAO R9-2005-0017 because the standard regulatory process for which the Regional Board conducts with the issuance of every CAO includes sufficient opportunity for public participation and interested party involvement to be considered equivalent to the process outline in CEQA.

This concludes the Technical Analysis Report.